Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. A method of building a variable length error code (VLEC), said method comprising the steps acts of :

(1) initializing the needed parameters : minimum and maximum length of codewords L_1 and L_{max} respectively, free distance d_{free} between each codeword, (said distance d_{free} being for a VLEC code C the minimum Hamming distance in the set of all arbitrary extended codes), and a required number of codewords S ;

(2) generating (step 11) a fixed length code C of length L_1 and minimal distance b_{min}, with $b_{min} = \min \{b_k ; k = 1, 2, ..., R\}$, b_k = the distance associated to the codeword length L_k of code C and defined as the minimum Hamming distance between all codewords of C with length L_k, and R = the number of different codeword lengths in C, said generating step 11 creating a set W of n-bit long words distant of d ;

(3) listing and storing (step 21) in the set W all the possible L_1 – tuples at the distance of d_{min} from the codewords of C_2 (said distance d_{min} for a VLEC code C being the minimum value of all the diverging distances between all possible couples of different-length codewords of C), and, if said set W is not empty in the case where no word is found or the maximum number of bits is reached, reducing a constraint of distance for finding many words and deleting one or more codewords of a last group, otherwise doubling the number of words in W by affixing at the end of all words one extra bit, said storing step act therefore replacing the set W by a new one having twice more words than the previous one and the length of each one of these words being $L_1 + 1$;

(4) deleting (step 31) all the words of the set W that do not satisfy the c_{min} distance with all codewords of C, said distance c_{min} being the minimum converging distance of the code C ;

(5) in the case where no word is found ~~or the maximum number of bits is reached, reducing (step 41) the constraint of distance for finding more words following acts 3 and 4, deleting codewords of the last group;~~

~~(6)~~, otherwise controlling that all words of the set W are distant of b_{min}, the said found words being then added to the code C ~~(step 34)~~;

~~(7)~~(6) if ~~(step 35)~~ the required number of codewords has not been reached, repeating the ~~steps~~ acts (1) to ~~(6)~~(5) ~~(i.e. the steps 21 to 35)~~ until the method finds either no further possibility to continue or the required number of codewords has been reached;

~~(8)~~(7) if the number of codewords of C is greater than S, calculating ~~(phase A4)~~, on the basis of the structure of the VLEC code, the average length AL obtained by weighting each codeword length with the a probability of the source, said AL becoming the AL_{min}, if it is lower than AL_{min}, with AL_{min} = the minimum value of AL, and the corresponding code structure being kept in memory ;

said building method being ~~moreover~~ such that at most one bit is added at the end of each word of the set W.

2. (Canceled)

3. (New) A computer configured to build a variable length error code (VLEC), the computer comprising:

(1) a portion configured to initialize needed parameters : minimum and maximum length of codewords L_l and L_{max} respectively, free distance d_{free} between each codeword, said distance d_{free} being for a VLEC code C the minimum Hamming distance in the set of all arbitrary extended codes, and a required number of codewords S ;

(2) a portion configured to generate a fixed length code C of length L_l and minimal

distance b_{min}, with $b_{min} = \min \{b_k ; k = 1, 2, ..., R\}$, b_k = the distance associated to the codeword length L_k of code C and defined as the minimum Hamming distance between all codewords of C with length L_k, and R = the number of different codeword lengths in C, said generating creating a set W of n-bit long words distant of d ;

(3) a portion configured to list and store in the set W all possible L_1 – tuples at the distance of d_{min} from the codewords of C, said distance d_{min} for a VLEC code C being the minimum value of all diverging distances between all possible couples of different-length codewords of C, and, in the case where no word is found or the maximum number of bits is reached, a portion configured to reduce a constraint of distance for finding more words and delete one or more codewords of a last group, otherwise a portion configured to double the number of words in W by affixing at the end of all words one extra bit, said portion configured to store therefore replacing the set W by a new one having twice more words than the previous one and the length of each one of these words being $L_1 + 1$;

(4) a portion configured to delete all the words of the set W that do not satisfy the c_{min} distance with all codewords of C, said distance c_{min} being the minimum converging distance of the code C ;

(5) in the case where no word is found following acts 3 and 4, a portion configured to delete codewords of the last group, otherwise control that all words of the set W are distant of b_{min}, with found words being then added to the code C;

(6) if the required number of codewords has not been reached, a portion configured to repeat (1) to (5) until the computer finds either no further possibility to continue or the

required number of codewords has been reached;

(7) if the number of codewords of C is greater than S, a portion configured to calculate, on the basis of the structure of the VLEC code, the average length AL obtained by weighting each codeword length with a probability of the source, said AL becoming the AL_{min}, if it is lower than AL_{min}, with AL_{min} = the minimum value of AL, and the corresponding code structure being kept in memory.